



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2022-0154; Project Identifier AD-2021-01153-T]**

**RIN 2120-AA64**

#### **Airworthiness Directives; The Boeing Company Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** The FAA proposes to adopt a new airworthiness directive (AD) for all The Boeing Company Model 777 airplanes. This proposed AD was prompted by a report of a crack found in a front spar lower chord undergoing an underwing longeron replacement. This proposed AD would require repetitive inspections for cracking of the left and right side ring chords, repair angles, front spar lower chords, and front spar webs (depending on configuration) common to the underwing longeron located at station (STA) 1035; modification of the front spar lower chord for some airplanes; repetitive post-modification inspections; and applicable on-condition actions. The FAA is proposing this AD to address the unsafe condition on these products.

**DATES:** The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0154.

### **Examining the AD Docket**

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0154; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

**FOR FURTHER INFORMATION CONTACT:** Luis Cortez-Muniz, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3958; email: [luis.a.cortez-muniz@faa.gov](mailto:luis.a.cortez-muniz@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Comments Invited**

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include

“Docket No. FAA-2022-0154; Project Identifier AD-2021-01153-T” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

#### **Confidential Business Information**

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Luis Cortez-Muniz, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3958; email: [luis.a.cortez-muniz@faa.gov](mailto:luis.a.cortez-muniz@faa.gov). Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

## **Background**

The FAA has received a report of a crack found in the front spar lower chord of a Model 777-300ER airplane undergoing an underwing longeron replacement. The affected airplane had 6,303 flight cycles and 53,727 flight hours. The crack was found near a critical fastener hole in the front spar lower chord; the underwing longeron was not cracked. Cracking in the front spar lower chord can lead to cracking in the front spar web. The front spar web is protected against fuel leaks from small cracks by a secondary barrier on the forward side of the front spar bulkhead. If a crack in the front spar web grows to a critical length, that cracking could result in a fuel leak from the center wing tank into the environmental control system (ECS) mix bay. This condition, if not addressed, could result in a fuel leak and fire hazard, or in the case of more severe cracking, also affect the structural integrity of the airplane.

## **FAA's Determination**

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

## **Related Service Information under 1 CFR Part 51**

The FAA reviewed Boeing Alert Requirements Bulletin 777-57A0122 RB, dated October 8, 2021. This service information specifies procedures for repetitive high frequency eddy current (HFEC), detailed, and ultrasonic inspections (depending on configuration) for cracking of the left and right side ring chords, repair angles, front spar lower chords, and front spar webs (depending on configuration) common to the underwing longeron located at STA 1035; modification of the front spar lower chord for some airplanes; repetitive post-modification inspections; and applicable on-condition actions. On-condition actions include repair. This service information is reasonably

available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

### **Proposed AD Requirements in this NPRM**

This proposed AD would require accomplishing the actions specified in the service information already described and except for any differences identified as exceptions in the regulatory text of this proposed AD. For information on the procedures and compliance times, see this service information at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0154.

### **Costs of Compliance**

The FAA estimates that this AD, if adopted as proposed, would affect 261 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

#### **Estimated costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Inspection(s)	44 work-hours X \$85 per hour = \$3,750 per inspection cycle	\$0	\$3,750 per inspection cycle	\$976,140 per inspection cycle
Modification*	137 work-hours X \$85 per hour = \$11,645	\$47,964	\$59,609	Up to \$15,557,949
Post-modification inspection(s)*	46 work-hours X \$85 per hour = \$3,910 per inspection cycle	\$0	\$3,910 per inspection cycle	Up to \$1,020,510 per inspection cycle

\*Number of affected airplanes that will be required to do this action is unknown

The FAA has received no definitive data on which to base the cost estimates for the repairs specified in this proposed AD.

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some or all of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected operators.

## **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

**The Boeing Company:** Docket No. FAA-2022-0154; Project Identifier AD-2021-01153-T.

#### **(a) Comments Due Date**

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to all The Boeing Company Model 777-200, -200LR, -300, -300ER, and 777F airplanes, certificated in any category.

#### **(d) Subject**

Air Transport Association (ATA) of America Code 57, Wings.

#### **(e) Unsafe Condition**

This AD was prompted by a report of a crack found in a front spar lower chord undergoing an underwing longeron replacement. The FAA is issuing this AD to detect and correct such cracking, which in combination with cracking in the front spar web, could result in a fuel leak and fire hazard, or in the case of more severe cracking, could also affect the structural integrity of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Required Actions**

Except as specified by paragraph (h) of this AD: At the applicable times specified in the “Compliance” paragraph of Boeing Alert Requirements Bulletin 777-57A0122 RB, dated October 8, 2021, do all applicable actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Alert Requirements Bulletin 777-57A0122 RB, dated October 8, 2021. Actions identified as terminating action in Boeing Alert Requirements Bulletin 777-57A0122 RB, dated October 8, 2021, terminate the applicable required actions of this AD, provided the terminating action is done in accordance with the Accomplishment Instructions of Boeing Alert Requirements Bulletin 777-57A0122 RB, dated October 8, 2021.

Note 1 to paragraph (g): Guidance for accomplishing the actions required by this AD can be found in Boeing Alert Service Bulletin 777-5A0122, dated October 8, 2021, which is referred to in Boeing Alert Requirements Bulletin 777-57A0122 RB, dated October 8, 2021.

**(h) Exceptions to Service Information Specifications**

(1) Where the Compliance Time columns of the tables in the “Compliance” paragraph of Boeing Alert Requirements Bulletin 777-57A0122 RB, dated October 8, 2021, use the phrase “the original issue date of Requirements Bulletin 777-57A0122 RB,” this AD requires using “the effective date of this AD.”

(2) Where Boeing Alert Requirements Bulletin 777-57A0122 RB, dated October 8, 2021, specifies contacting Boeing for repair instructions: This AD requires doing the repair using a method approved in accordance with the procedures specified in paragraph (i) of this AD.



**(i) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Seattle ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by The Boeing Company Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

**(j) Related Information**

(1) For more information about this AD, contact Luis Cortez-Muniz, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3958; email: luis.a.cortez-muniz@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St.,

Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

Issued on March 7, 2022.

Derek Morgan, Acting Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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